



COMPANY GULF MINERAL RESOURCES COMPANY
WELL BONANZA NO. 22
FIELD
COUNTY STATE
LOCATION
DATE 11-1-76
FORMATION
DNLG. FLD.
REMARKS
FILE NO. 9107-OSA-271
ENGRS. RM
ELEV.
CORES

U160

G. E. LABORATORIES, INC.
Petroleum Engineering

OIL SHALE ASSAY

S. N.	Depth, Feet	OIL		G.I. Specific Gravity	WATER		Sp. Gr. Shale Wt. %	Gas Plus Loss Wt. %	Tendency to Calc.	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
1	20.6-21	3.8	1.5	.926	1.8	0.7	97.0	0.8	N11	
2	21-22	1.7	0.6	.926	2.3	1.0	97.9	0.5	N11	
3	22-23	4.1	1.6	.926	2.6	1.1	96.7	0.6	N11	
4	23-24	11.8	4.7	.947	2.8	1.1	93.1	1.1	N11	
5	24-25	16.3	6.4	.939	2.7	1.1	91.1	1.4	N11	
6	25-26	10.3	4.0	.926	2.3	1.0	94.1	0.9	N11	
7	26-27	10.7	4.1	.926	2.9	1.2	93.8	0.9	N11	
8	27-28	11.0	4.3	.945	3.0	1.2	93.5	0.9	N11	
9	28-29	11.4	4.5	.945	2.9	1.2	93.1	1.2	N11	
10	29-30	19.6	7.8	.950	4.3	1.8	89.5	1.0	N11	
11	30-31	12.0	4.7	.945	2.2	0.9	93.5	0.9	N11	
12	31-32	10.7	4.2	.939	2.8	1.2	93.9	0.7	N11	
13	32-33	10.1	3.9	.939	2.4	1.0	94.5	0.6	N11	
14	33-34	10.0	3.9	.932	1.4	0.6	94.9	0.6	N11	
15	34-35	6.5	2.5	.931	1.8	0.7	96.3	0.5	N11	
16	35-36	11.6	4.5	.935	2.2	0.9	93.8	0.8	N11	
17	36-37	12.8	5.0	.935	2.5	1.1	93.1	0.8	N11	
18	37-38	17.0	6.6	.935	5.8	2.4	90.2	0.8	N11	
19	38-39	11.0	4.3	.945	3.1	1.3	93.4	1.0	N11	
20	39-40	11.1	4.3	.935	1.9	0.8	94.0	0.8	N11	
	40-41	MISSING CORE								
21	41-42	17.5	6.9	.948	1.4	0.6	90.6	1.9	N11	
22	42-43	12.4	4.8	.928	1.4	0.6	93.8	0.9	N11	
23	43-44	17.8	7.0	.948	1.8	0.7	91.4	0.8	N11	
24	44-45	25.4	9.8	.923	1.2	0.5	88.7	1.1	N11	
25	45-46	18.0	6.9	.918	1.3	0.6	91.7	0.8	N11	

\$4467.50

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GULF MINERAL RESOURCES COMPANY

BONANZA NO. 22

OIL STREAM ANALYSIS

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	Depth Feet	Oil		Oil Specific Gravity	Water		Sand Solids Wt. %	Gas Flow Lbs. Wt. %	Tendency to Corrode	Remarks
		Gal/Min	Wt. %		Gal/Min	Wt. %				
26	46-47	17.1	6.6	.918	2.2	0.9	91.9	0.6	N11	
27	47-48	28.8	11.1	.926	3.4	1.4	86.5	0.9	N11	
28	48-49	21.7	8.4	.926	3.0	1.3	88.5	1.8	N11	
29	49-50	20.0	7.7	.921	1.5	0.6	90.8	0.9	N11	
30	50-51	19.5	7.5	.921	2.4	1.0	90.7	0.8	N11	
31	51-52	21.8	8.4	.922	1.4	0.6	88.3	2.7	N11	
32	52-53	22.3	8.7	.932	2.1	0.9	89.9	0.6	N11	
33	53-54	30.7	11.9	.932	2.2	0.9	85.5	1.7	N11	
34	54-55	18.9	7.3	.922	1.6	0.7	90.6	1.5	N11	
35	55-56	15.7	6.2	.941	2.2	0.9	89.4	3.5	N11	
36	56-57	16.2	6.4	.938	1.3	0.5	92.0	1.1	N11	
37	57-58	12.3	4.7	.917	1.3	0.5	93.6	1.2	N11	
38	58-59	20.5	7.9	.921	2.0	0.8	89.8	1.5	N11	
39	59-60	23.1	8.9	.921	2.6	1.1	88.4	1.7	N11	
40	60-61	18.5	7.2	.932	2.2	0.9	89.4	2.5	N11	
41	61-62	13.5	5.3	.932	1.5	0.6	93.4	0.7	N11	
42	62-63	17.2	6.7	.932	2.1	0.9	91.8	0.6	N11	
43	63-64	22.4	8.7	.932	1.1	0.4	90.4	0.5	N11	
44	64-65	12.2	4.8	.931	1.7	0.7	93.9	0.6	N11	
45	65-66	10.6	4.1	.931	2.4	1.0	94.5	0.4	N11	
46	66-67	11.8	4.6	.931	5.2	2.2	93.0	0.3	N11	
47	67-68	13.5	5.3	.932	1.8	0.7	93.3	0.7	N11	
48	68-69	14.1	5.4	.927	0.6	0.2	93.6	0.6	N11	
49	69-70	13.5	5.2	.932	1.2	0.5	93.5	0.8	N11	
50	70-71	16.2	6.2	.923	1.1	0.5	92.3	1.0	N11	
51	71-72	18.1	7.0	.926	1.0	0.4	91.7	0.9	N11	
52	72-73	19.4	7.5	.923	2.0	0.8	90.5	1.2	N11	
53	73-74	18.9	7.3	.926	2.4	1.0	90.3	1.4	N11	
54	74-75	11.5	4.5	.934	2.2	0.9	93.9	0.7	N11	
55	75-76	9.2	3.6	.939	2.1	0.9	94.8	0.7	N11	
56	76-77	8.7	3.4	.932	2.8	1.2	94.7	0.7	N11	
57	77-78	11.7	4.6	.939	2.1	0.9	93.6	0.9	N11	
58	78-79	15.0	5.8	.932	2.6	1.1	92.1	1.0	N11	
59	79-80	10.1	3.9	.932	2.7	1.1	94.1	0.9	N11	
60	80-81	9.0	3.5	.939	2.2	0.9	94.6	1.0	N11	

OIL SHALE ASSAY

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	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Sludge Vol. %	Gas Plus Loss Vol. %	Tendency to Coke	REMARKS
		Gal/ton	Vol. %		Gal/ton	Vol. %				
61	81-82	10.0	3.8	.922	1.1	0.4	94.9	0.8	N11	
62	82-83	8.2	3.1	.922	2.2	0.9	95.1	0.8	N11	
63	83-84	10.9	4.2	.922	1.0	0.4	94.5	0.8	N11	
64	84-85	16.0	6.1	.922	2.3	1.0	91.7	1.2	N11	
65	85-86	13.9	5.3	.920	1.8	0.7	93.1	0.8	N11	
66	86-87	9.4	3.6	.920	1.7	0.7	95.1	0.5	N11	
67	87-88	9.4	3.6	.922	1.7	0.7	94.7	0.9	N11	
68	88-89	29.5	11.2	.911	2.3	1.0	85.5	2.4	N11	
69	89-90	28.5	10.8	.907	2.7	1.1	86.1	2.0	N11	
70	90-91	10.9	4.3	.941	2.1	0.9	93.9	1.0	N11	
71	91-92	14.1	5.5	.941	0.3	0.1	93.2	1.2	N11	
72	92-93	21.8	8.5	.939	1.5	0.6	88.8	2.1	Slight	
73	93-94	45.3	17.8	.939	1.5	0.6	78.9	2.7	Slight	
74	94-95	19.3	7.6	.939	1.9	0.8	90.3	1.3	N11	
75	95-96	28.4	11.1	.938	2.3	0.9	85.6	2.3	Slight	
76	96-97	14.6	5.7	.929	1.3	0.6	92.6	1.2	Slight	
77	97-98	16.1	6.4	.951	1.9	0.8	91.4	1.4	N11	
78	98-99	31.3	12.2	.933	1.6	0.7	83.4	3.7	N11	
79	99-00	9.3	3.7	.941	1.8	0.8	94.6	0.9	N11	
80	100-01	6.5	2.5	.941	2.0	0.8	95.9	0.6	N11	
81	101-02	6.5	2.5	.927	0.6	0.3	95.7	1.5	N11	
82	102-03	2.4	0.9	.927	1.5	0.6	97.6	0.9	N11	
83	103-04	7.1	2.8	.927	1.1	0.4	95.5	1.3	N11	
84	104-05	6.8	2.6	.927	1.5	0.6	95.4	1.3	Slight	
85	105-06	4.8	1.9	.922	0.8	0.3	96.6	1.2	Slight	
86	106-07	4.7	1.8	.922	1.0	0.4	96.5	1.3	N11	
87	107-08	2.7	1.1	.927	1.5	0.6	97.3	1.0	N11	
88	108-09	2.4	0.9	.922	1.8	0.8	97.1	1.2	N11	
89	109-10	3.3	1.3	.907	1.5	0.6	97.0	1.1	N11	
90	110-11	12.9	4.9	.907	2.4	1.0	92.2	2.0	N11	
91	111-12	11.1	4.2	.921	2.0	0.8	94.0	0.9	N11	
92	112-13	18.0	6.7	.899	2.8	1.2	90.8	1.3	N11	
93	113-14	38.1	14.4	.906	3.8	1.6	82.8	1.2	Slight	
94	114-15	16.2	6.1	.906	4.1	1.7	90.7	1.4	N11	
95	115-16	16.6	6.3	.906	2.7	1.1	91.3	1.3	N11	

I	Depth, Feet	OIL		Oil Specific Gravity	WATER		Sp. Gr. Solids Vol. %	Gas Flow Loss Vol. %	Tendency to Coag.	REMARKS
		Gal/Ton	Vol. %		Gal/Ton	Vol. %				
96	116-17	11.8	4.4	.898	2.6	1.1	92.4	2.1	N11	
97	117-18	22.7	8.5	.898	4.6	1.9	87.8	1.8	N11	
98	118-19	34.6	13.2	.914	1.0	0.4	85.3	1.1	Slight	
99	119-20	30.6	11.9	.930	2.8	1.2	84.5	2.5	Slight	
100	120-21	24.3	9.4	.927	2.9	1.2	88.9	0.5	Slight	
101	121-22	41.2	15.8	.919	3.8	1.6	80.0	2.6	Slight	
102	122-23	43.3	16.3	.903	4.4	1.8	78.9	3.0	Slight	
103	123-24	21.6	8.2	.904	5.1	2.1	87.5	2.2	N11	
104	124-25	17.5	6.8	.922	4.2	1.7	89.0	2.5	N11	
105	125-26	9.5	3.6	.918	3.3	1.4	92.9	2.1	N11	
106	126-27	18.5	7.0	.900	3.4	1.4	89.2	2.4	N11	
107	127-28	16.0	6.0	.902	3.1	1.3	90.5	2.2	N11	
108	128-29	13.5	5.3	.912	3.1	1.3	91.5	1.9	N11	
109	129-30	16.9	6.4	.909	2.6	1.1	91.5	1.0	N11	
110	130-31	12.1	4.7	.933	3.1	1.3	92.0	2.0	N11	
111	131-32	13.4	5.2	.924	3.9	1.6	91.8	1.4	N11	
112	132-33	13.1	5.0	.911	1.2	0.5	93.4	1.2	N11	
113	133-34	13.4	5.1	.910	1.5	0.6	92.6	1.7	N11	
114	134-35	15.1	5.7	.905	1.7	0.7	91.4	2.2	N11	
115	135-36	43.8	16.9	.925	3.6	1.5	78.4	3.2	Slight	
116	136-37	21.2	8.3	.918	3.2	1.3	88.4	2.1	N11	
117	137-38	17.2	6.4	.898	2.6	1.1	90.8	1.7	N11	
118	138-39	29.9	11.3	.906	2.5	1.0	85.4	2.2	N11	
119	139-40	48.4	18.4	.912	3.4	1.4	76.7	3.5	Slight	
120	140-41	41.1	15.5	.907	2.6	1.1	80.6	2.7	Slight	
121	141-42	21.1	8.0	.907	1.9	0.8	89.6	1.6	N11	
122	142-43	22.1	8.7	.949	4.5	1.9	88.2	1.1	N11	
123	143-44	31.8	12.3	.926	4.9	2.0	85.6	0.1	Slight	
124	144-45	38.5	14.9	.924	4.4	1.8	82.4	0.8	Slight	
125	145-46	17.0	6.5	.914	3.1	1.3	90.4	1.9	N11	
126	146-47	20.0	7.7	.918	3.4	1.4	90.1	0.9	N11	
127	147-48	24.9	9.4	.906	6.0	2.5	86.4	1.7	N11	
128	148-49	28.3	10.7	.906	4.4	1.8	86.3	1.2	N11	
129	149-50	25.7	9.8	.915	2.4	1.0	88.0	1.2	N11	
130	150-51	18.0	6.9	.919	2.5	1.0	91.3	0.8	N11	

	Depth, Feet	Oil		Oil Specific Gravity	WATER		Solid State Vol. %	Gas Res Loss Vol. %	Secondary to Cells	REMARKS
		Gal/Ton	Vol. %		Gal/Ton	Vol. %				
131	151-52	28.3	10.8	.919	1.9	0.8	82.2	1.2	N11	
132	152-53	25.2	9.5	.903	1.9	0.8	88.8	1.0	N11	
133	153-54	20.7	7.8	.904	0.6	0.3	91.4	0.6	N11	
134	154-55	15.6	6.0	.922	1.6	0.7	92.2	1.1	N11	
135	155-56	19.0	7.3	.918	1.3	0.6	91.2	1.0	N11	
136	156-57	23.0	8.6	.900	1.8	0.8	89.4	1.3	N11	
137	157-58	26.7	10.0	.902	0.9	0.4	87.8	1.8	N11	
138	158-59	19.6	7.5	.912	1.0	0.4	92.1	0.1	N11	
139	159-60	21.4	8.1	.909	1.3	0.5	90.3	1.1	N11	
140	160-61	36.4	14.2	.933	2.5	1.1	83.6	1.2	N11	Slight
141	161-62	23.2	8.9	.926	1.4	0.6	88.7	1.8	N11	
142	162-63	6.6	2.5	.922	1.9	0.8	95.3	1.4	N11	
143	163-64	9.0	3.5	.938	3.2	1.3	94.2	1.0	N11	
144	164-65	17.0	6.6	.932	3.1	1.3	90.4	1.7	N11	
145	165-66	15.2	5.9	.926	5.1	2.1	90.6	1.4	N11	
146	166-67	6.6	2.5	.923	4.6	1.9	94.6	1.0	N11	
147	167-68	8.7	3.4	.932	3.0	1.2	94.5	0.8	N11	
148	168-69	10.4	4.1	.939	2.4	1.0	93.7	1.2	N11	
149	169-70	16.3	6.3	.932	2.7	1.1	92.0	0.6	N11	
150	170-71	28.8	11.2	.931	2.2	0.9	86.1	1.8	N11	Slight
151	171-72	37.5	14.4	.922	4.0	1.7	81.4	2.5	N11	Slight
152	172-73	28.0	10.8	.922	2.2	0.9	86.6	1.7	N11	
153	173-74	22.3	8.8	.941	2.6	1.1	88.4	1.7	N11	
154	174-75	29.7	11.7	.939	2.7	1.1	84.6	2.6	N11	
155	175-76	25.7	10.0	.933	3.1	1.3	86.8	1.9	N11	
156	176-77	25.3	9.9	.941	3.0	1.3	88.4	0.4	N11	
157	177-78	14.8	5.7	.927	2.7	1.1	91.6	1.5	N11	
158	178-79	12.3	4.8	.930	2.0	0.8	92.8	1.5	N11	
159	179-80	14.5	5.6	.927	2.4	1.0	91.7	1.7	N11	
160	180-81	19.8	7.6	.921	3.3	1.4	89.0	2.1	N11	
161	181-82	17.4	6.8	.941	3.4	1.4	90.0	1.7	N11	
162	182-83	12.5	4.8	.927	2.4	1.0	92.2	1.9	N11	
163	183-84	7.2	2.8	.930	2.8	1.2	94.9	1.2	N11	
164	184-85	4.2	1.6	.927	1.7	0.7	97.0	0.7	N11	
165	185-86	4.8	1.9	.921	1.9	0.8	96.5	0.9	N11	

	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Shale Wt. %	Oil Film Loss Wt. %	Tendency to Coke	REMARKS
		Gal/Ton	Vol. %		Gal/Ton	Vol. %				
166	186-87	18.8	7.3	.933	2.2	0.9	90.4	1.3	N11	
167	187-88	19.4	7.6	.933	2.7	1.1	90.2	1.1	N11	
168	188-89	8.2	3.2	.941	2.4	1.0	94.8	1.0	N11	
169	189-90	33.9	13.0	.921	3.8	1.6	83.0	2.4	Slight	
170	190-91	21.7	8.3	.922	2.9	1.2	88.6	1.8	N11	
171	191-92	6.7	2.6	.923	1.4	0.6	96.0	0.8	N11	
172	192-93	4.5	1.7	.926	2.7	1.1	96.3	0.8	N11	
173	193-94	12.4	4.8	.934	2.6	1.1	92.4	1.7	N11	
174	194-95	22.5	8.9	.949	3.3	1.4	88.5	1.3	N11	
175	195-96	3.3	1.3	.932	2.8	1.2	97.1	0.5	N11	
176	196-97	2.7	1.1	.932	2.2	0.9	97.6	0.4	N11	
177	197-98	2.9	1.1	.939	2.7	1.1	97.3	0.4	N11	
178	198-99	7.1	2.8	.939	2.0	0.8	95.7	0.6	N11	
179	199-00	20.9	8.2	.938	3.9	1.6	89.0	1.2	N11	
180	200-01	16.5	6.4	.933	6.5	2.7	90.5	0.4	N11	
181	201-02	22.6	8.7	.922	2.4	1.0	88.8	1.5	N11	
182	202-03	14.6	5.8	.961	3.7	1.5	91.3	1.3	N11	
183	203-04	6.4	2.5	.941	2.2	0.9	95.9	0.6	N11	
184	204-05	8.5	3.3	.939	2.4	1.0	94.8	0.9	N11	
185	205-06	4.4	1.7	.933	2.9	1.2	96.8	0.3	N11	
186	206-07	7.1	2.7	.923	3.2	1.3	95.0	1.0	N11	
187	207-08	7.1	2.8	.938	3.7	1.5	94.9	0.8	N11	
188	208-09	5.0	2.0	.939	3.3	1.4	95.8	0.8	N11	
189	209-10	10.3	4.0	.932	4.8	2.0	92.7	1.3	N11	
190	210-11	5.6	2.2	.931	4.8	2.0	94.8	1.0	N11	
191	211-12	3.6	1.4	.907	4.0	1.7	96.2	0.8	N11	
192	212-13	5.8	2.3	.949	4.5	1.9	95.0	0.8	N11	
193	213-14	8.9	3.4	.926	2.9	1.2	94.7	0.6	N11	
194	214-15	4.4	1.7	.924	5.2	2.2	95.4	0.7	N11	
195	215-16	3.3	1.3	.914	3.9	1.6	96.3	0.8	N11	
196	216-17	2.3	0.9	.926	4.3	1.8	95.7	1.5	N11	
197	217-18	2.3	0.9	.922	3.6	1.5	96.9	0.7	N11	
198	218-19	7.8	3.0	.938	5.3	2.2	93.9	0.8	N11	
199	219-20	3.5	1.4	.932	4.3	1.8	95.7	1.1	N11	
200	220-21	11.8	4.5	.926	3.1	1.3	92.9	1.3	N11	

OIL SHALE ANALYSIS

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Core Interval	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spent Solids Wt. %	Gas Res. Loss Wt. %	Tendency to Crack	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
201	221-22	9.7	3.7	.921	1.4	0.6	95.0	0.7	N11	
202	222-23	4.4	1.7	.927	0.3	0.1	97.5	0.6	N11	
203	223-24	4.4	1.7	.930	3.5	1.4	96.3	0.5	N11	
204	224-25	4.6	1.8	.927	1.7	0.7	97.1	0.4	N11	
205	225-26	3.3	1.3	.941	1.6	0.7	97.7	0.3	N11	
206	226-27	1.6	0.6	.933	1.8	0.7	98.4	0.2	N11	
207	227-28	1.3	0.5	.939	2.2	0.9	98.1	0.4	N11	
208	228-29	1.4	0.6	.941	2.6	1.1	97.9	0.4	N11	
209	229-30	1.4	0.5	.961	2.7	1.1	97.9	0.4	N11	
210	230-31	3.4	1.3	.927	2.2	0.9	97.3	0.4	N11	
211	231-32	1.3	0.5	.927	4.1	1.7	97.4	0.4	N11	
212	232-33	1.0	0.4	.933	4.2	1.7	97.6	0.2	N11	
213	233-34	3.9	1.6	.951	2.2	0.9	97.1	0.5	N11	
214	234-35	2.2	0.9	.929	1.4	0.6	98.1	0.4	N11	
215	235-36	5.3	2.1	.938	1.1	0.5	96.6	0.9	N11	
216	236-37	8.3	3.3	.939	2.6	1.1	94.4	1.2	N11	
217	237-38	3.9	1.5	.941	2.8	1.2	96.4	0.9	N11	
218	238-39	8.1	3.1	.920	2.4	1.0	94.8	1.1	N11	
219	239-40	43.2	16.6	.922	3.6	1.5	78.8	3.1	Slight	
220	240-41	7.9	3.1	.922	4.3	1.8	93.9	1.2	N11	
221	241-42	8.8	3.4	.927	2.0	0.8	95.1	0.7	N11	
222	242-43	16.7	6.6	.933	3.9	1.6	90.6	1.2	N11	
223	243-44	39.5	15.7	.951	3.3	1.4	80.8	2.1	Slight	
	244-45	MISSING CORE								
224	245-46	20.3	7.9	.929	2.5	1.0	89.9	1.2	N11	
225	246-47	8.4	3.3	.938	3.8	1.6	94.6	0.6	N11	
226	247-48	9.5	3.7	.922	3.0	1.2	94.3	0.8	N11	
227	248-49	10.3	4.0	.922	2.9	1.2	94.1	0.7	N11	
228	249-50	21.1	8.1	.920	3.0	1.3	89.2	1.4	N11	
229	250-51	12.6	4.9	.941	2.3	0.9	93.3	0.9	N11	
230	251-52	7.4	2.9	.939	2.3	1.0	95.5	0.7	N11	
231	252-53	3.9	1.5	.941	6.7	2.8	95.0	0.7	N11	
232	253-54	3.1	1.2	.941	2.4	1.0	97.4	0.4	N11	
233	254-55	4.8	1.9	.939	2.9	1.2	96.5	0.4	N11	
234	255-56	9.9	3.9	.939	3.1	1.3	93.9	0.9	N11	
235	256-57	10.1	4.0	.939	2.9	1.2	94.0	0.8	N11	

OIL SHALE ANALYSIS

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Sample No.	Depth, Feet	Oil		Oil Specific Gravity	WATER		Solid Solids Wt. %	Gas Flow Lbs. Wt. %	Tendency to Gels	REMARKS
		Gal/Ton	Wt. %		Gal/Ton	Wt. %				
236	257-58	8.2	3.2	.938	3.0	1.3	94.4	1.1	N11	
237	258-59	6.0	2.4	.951	3.1	1.3	95.3	1.0	N11	
238	259-60	9.6	3.7	.933	2.2	0.9	94.0	1.3	N11	
239	260-61	8.9	3.5	.941	2.0	0.9	95.0	0.7	N11	
240	261-62	12.1	4.7	.941	2.9	1.2	91.9	2.1	N11	
241	262-63	10.4	4.1	.938	1.0	0.4	94.4	1.1	N11	
242	263-64	6.6	2.5	.929	2.5	1.0	95.6	0.9	N11	
243	264-65	17.3	6.9	.951	1.2	0.5	91.5	1.1	N11	
244	265-66	6.8	2.7	.933	1.4	0.6	95.8	0.9	N11	
245	266-67	9.3	3.6	.927	2.1	0.9	94.0	1.5	N11	
246	267-68	6.4	2.4	.922	2.0	0.8	95.8	0.9	N11	
247	268-69	9.2	3.5	.922	3.1	1.3	94.1	1.1	N11	
248	269-70	11.1	4.3	.920	3.2	1.3	93.3	1.1	N11	
249	270-71	11.6	4.6	.941	5.8	2.4	91.5	1.5	N11	
250	271-72	23.0	9.0	.939	6.6	2.8	86.1	2.2	N11	
251	272-73	6.7	2.6	.927	4.4	1.8	94.6	1.0	N11	
252	273-74	7.1	2.8	.933	4.0	1.7	94.7	0.9	N11	
253	274-75	9.5	3.7	.938	4.2	1.8	93.3	1.2	N11	
254	275-76	23.3	9.0	.929	3.6	1.5	87.8	1.7	N11	
255	276-77	38.2	15.0	.939	3.6	1.5	81.1	2.5	SLight	
256	277-78	21.6	8.5	.941	4.1	1.7	88.1	1.7	N11	
257	278-79	15.2	6.0	.941	4.2	1.8	90.7	1.5	N11	
258	279-80	20.2	7.9	.939	4.8	2.0	88.1	2.0	N11	
259	280-81	25.3	9.9	.933	5.1	2.1	85.9	2.1	N11	
260	281-82	5.0	1.9	.922	3.7	1.6	95.7	0.8	N11	
261	282-83	5.7	2.2	.926	3.0	1.2	95.8	0.8	N11	
262	283-84	8.6	3.3	.923	3.9	1.6	94.3	0.8	N11	
263	284-85	11.1	4.3	.926	4.5	1.9	92.5	1.3	N11	
264	285-86	19.7	7.7	.934	3.8	1.6	88.9	1.8	N11	
265	286-87	15.6	6.0	.922	5.3	2.2	89.8	2.0	N11	
266	287-88	12.9	4.9	.922	4.9	2.0	91.7	1.3	N11	
267	288-89	29.4	11.3	.922	4.5	1.9	84.8	2.0	N11	
268	289-90	9.1	3.5	.920	7.6	3.2	92.0	1.4	N11	
269	290-91	12.1	4.6	.922	3.6	1.5	93.0	0.9	N11	
270	291-92	18.6	7.2	.927	3.7	1.5	90.2	1.1	N11	

OIL SHALE ASSAY

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	Depth, Feet	OIL		Oil Specific Gravity	WATER		Spon Shale Vol. %	Gas Plus Loss Vol. %	Tendency to Coke	REMARKS
		Gal/Ton	Vol. %		Gal/Ton	Vol. %				
271	292-93	32.7	12.4	.907	3.4	1.4	82.6	3.6	Slight	
272	293-94	14.7	5.7	.921	4.1	1.7	91.0	1.6	N11	
273	294-95	7.2	2.7	.899	4.3	1.8	94.2	1.4	N11	
274	295-96	5.5	2.2	.949	4.6	1.9	94.6	1.3	N11	
275	296-97	8.5	3.3	.923	3.7	1.6	94.0	1.2	N11	
276	297-98	28.9	11.2	.932	3.9	1.6	84.0	3.1	N11	
277	298-99	26.7	10.5	.939	6.3	2.6	84.3	2.6	N11	
278	299-00	16.7	6.5	.932	5.8	2.4	88.8	2.3	N11	
279	300-01	19.5	7.5	.922	5.5	2.4	87.5	2.5	N11	
280	301-02	21.5	8.4	.933	6.3	2.6	86.3	2.7	N11	
281	302-03	8.0	3.1	.945	5.1	2.1	93.8	1.0	N11	
282	303-04	6.6	2.6	.948	5.2	2.2	94.2	1.0	N11	
283	304-05	1.5	0.6	.939	7.4	3.1	95.9	0.4	N11	
	305-08	MISSING CORE								
284	308-09	4.3	1.6	.907	6.5	2.7	94.3	1.4	N11	
285	309-10	3.1	1.2	.941	8.3	3.5	94.9	0.4	N11	
286	310-11	0.3	0.1	.941	8.4	3.5	95.5	0.9	N11	
287	311-12	5.1	2.0	.933	5.9	2.4	94.3	1.3	N11	
288	312-13	2.5	1.0	.932	5.5	2.3	95.5	1.2	N11	
289	313-14	3.7	1.5	.939	3.7	1.5	95.7	1.3	N11	
290	314-15	7.2	2.8	.939	0.9	0.4	95.9	0.9	N11	
291	315-16	7.7	3.0	.935	4.6	1.9	94.2	0.9	N11	
292	316-17	8.6	5.4	.935	5.4	2.2	87.7	1.5	N11	
293	317-18	12.6	5.9	.935	5.9	2.4	82.7	2.3	N11	
294	318-19	13.8	5.3	.923	6.0	2.3	91.1	1.2	N11	
295	319-20	7.9	3.0	.918	5.6	2.3	93.7	0.9	N11	
296	320-21	11.3	4.4	.926	3.6	1.5	93.0	1.1	N11	
297	321-22	21.9	8.4	.920	5.0	2.1	87.7	1.8	N11	
298	322-23	25.9	10.1	.932	6.4	2.7	85.1	2.2	N11	
	323-24	MISSING CORE								
299	324-25	31.9	12.2	.921	6.2	2.5	83.0	2.2	Slight	
300	325-26	32.3	12.6	.932	4.2	1.7	83.4	2.3	Slight	

GULF MINERAL RESOURCES COMPANY

BOHANZA NO. 22

OIL SHEET

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Sample No.	Depth, Feet	CL		Gr Specific Gravity	Moisture		Grav Specific Weight	Grav Specific Weight	Tendency to Crack	Remarks
		Grav %	Vol %		Grav %	Vol %				
301	326-27	15.6	6.1	.934	0.7	0.3	92.8	0.8	Nil	
302	327-28	11.0	4.3	.939	1.2	0.5	94.5	0.7	Nil	
303	328-29	8.9	3.5	.932	1.4	0.6	95.4	0.6	Nil	
304	329-30	15.1	5.8	.922	2.6	1.1	92.0	1.1	Nil	
305	330-31	52.5	20.4	.933	9.0	3.7	71.9	4.0	Medium	
306	331-32	31.4	12.1	.923	5.6	2.3	83.0	2.6	Slight	
307	332-33	24.8	9.8	.949	5.9	2.5	85.5	2.3	Slight	
308	333-34	7.1	2.7	.899	4.1	1.7	94.6	1.0	Nil	
309	334-35	2.3	0.9	.921	3.6	1.5	96.7	0.9	Nil	
310	335-36	7.5	2.8	.907	2.9	1.2	94.9	1.1	Nil	
311	336-37	5.5	2.1	.932	2.4	1.0	96.3	0.6	Nil	
312	337-38	5.2	2.0	.922	2.9	1.2	96.2	0.6	Nil	
313	338-39	12.3	4.7	.922	5.2	2.2	91.8	1.3	Nil	
314	339-40	6.8	2.6	.932	5.8	2.4	93.4	1.5	Nil	
315	340-41	8.2	3.2	.939	5.5	2.3	93.1	1.3	Nil	
316	341-42	7.5	2.9	.939	6.5	2.7	93.3	1.1	Nil	
317	342-43	9.0	3.4	.921	7.1	3.0	92.1	1.5	Nil	
318	343-44	7.9	3.1	.932	7.2	3.0	92.9	1.1	Nil	
319	344-45	7.6	2.9	.899	5.5	2.3	93.6	1.2	Nil	
345-46 MISSING CORE										
320	346-47	5.7	2.3	.941	7.7	3.2	93.3	1.3	Nil	
321	347-48	3.1	1.2	.939	4.3	1.8	96.1	0.9	Nil	
322	348-49	1.9	0.7	.932	4.8	2.0	96.7	0.5	Nil	
323	349-50	2.1	0.8	.918	4.2	1.7	96.9	0.6	Nil	
324	350-51	3.3	1.3	.938	4.5	1.9	96.2	0.6	Nil	
325	351-52	4.7	1.8	.923	4.3	1.8	95.7	0.7	Nil	
326	352-53	5.2	2.0	.932	6.7	2.8	94.0	1.2	Nil	
327	353-54	7.1	2.7	.922	6.3	2.6	93.6	1.0	Nil	
328	354-55	4.6	1.8	.920	8.1	3.4	93.6	1.3	Nil	
329	355-56	9.2	3.6	.927	5.3	2.2	93.2	1.0	Nil	
330	356-57	7.1	2.7	.930	8.1	3.4	92.2	1.6	Nil	
331	357-58	3.8	1.4	.904	8.5	3.6	93.7	1.3	Nil	
332	358-59	5.1	1.9	.903	10.6	4.4	92.2	1.5	Nil	

359-62 MISSING CORE

	Depth Feet	CL		CL Specific Gravity	WATER		Solids Solids Vol. %	Gravities Loss Vol. %	Reactivity to Color	Remarks
		Gals/Ton	Vol. %		Gals/Ton	Vol. %				
333	362-63	6.4	2.5	.918	9.1	3.8	92.1	1.6	N11	
334	363-64	2.6	1.0	.924	3.6	1.5	97.0	0.5	N11	
335	364-65	16.3	6.2	.915	2.8	1.2	91.2	1.3	N11	
336	365-66	20.5	7.9	.918	5.8	2.4	87.8	2.0	N11	
337	366-67	14.2	5.4	.912	6.3	2.6	90.7	1.2	N11	
338	367-68	15.2	5.9	.933	6.5	2.7	89.8	1.6	N11	
339	368-69	6.5	2.5	.926	4.2	1.7	94.3	1.5	N11	
340	369-70	5.2	6.4	.926	6.4	2.6	90.4	1.7	N11	
	370-71	MISSING CORE								
341	371-72	9.4	3.6	.927	4.4	1.9	93.6	1.0	N11	
342	372-73	7.9	3.1	.933	5.2	2.2	94.2	0.6	N11	
343	373-74	7.7	3.0	.951	5.8	2.4	93.8	0.7	N11	
344	374-75	10.1	3.9	.933	5.2	2.2	93.2	0.7	N11	
345	375-76	6.3	2.4	.922	5.3	2.2	94.5	0.9	N11	
346	376-77	6.3	2.4	.922	5.9	2.4	93.4	1.7	N11	
347	377-78	5.9	2.3	.932	8.2	3.4	92.3	2.0	N11	
348	378-79	7.6	3.0	.939	8.6	3.6	91.6	1.8	N11	
349	379-80	7.3	2.8	.921	8.3	3.5	91.7	2.0	N11	
350	380-81	14.4	5.4	.907	6.3	2.6	90.4	1.5	N11	
351	381-82	21.4	8.3	.932	5.5	2.3	87.4	2.0	N11	
352	382-83	22.8	8.8	.921	6.2	2.6	86.0	2.6	N11	
353	383-84	19.5	7.7	.948	4.2	1.7	88.9	1.7	N11	
354	384-85	8.9	3.4	.923	4.6	1.9	93.5	1.1	N11	
355	385-86	18.7	7.0	.899	7.6	3.2	88.7	1.1	N11	
356	386-87	19.0	7.3	.918	7.0	2.9	88.5	1.3	N11	
357	387-88	14.7	5.6	.912	7.9	3.3	89.5	1.7	N11	
358	388-89	14.8	5.7	.932	8.4	3.5	88.7	2.1	N11	
359	389-90	17.9	6.9	.921	8.8	3.7	87.8	1.6	N11	
360	390-91	20.3	8.1	.951	5.9	2.5	87.9	1.6	N11	
361	391-92	17.5	6.7	.925	4.1	1.7	90.1	1.5	N11	
362	392-93	5.4	2.1	.925	5.1	2.1	95.2	0.6	N11	
363	393-94	0.8	0.3	.925	3.4	1.4	98.1	0.2	N11	
364	394-95	2.2	0.8	.925	3.8	1.6	97.1	0.4	N11	
365	395-96	3.9	1.5	.908	3.8	1.5	96.4	0.5	N11	

	Sample No.	Moisture		Oil Specific Gravity	Waxes		Sulfur Content Vol. %	Gas Plus Loss Vol. %	Tendency to Gel	Remarks
		Gravimetric	Loss %		Gravimetric	Vol. %				
366	396-97	11.7	4.4	.908	5.5	2.3	92.2	1.1	N11	
367	397-98	3.6	1.4	.908	4.6	1.9	96.1	0.7	N11	
368	398-99	2.9	1.1	.908	2.6	1.1	97.1	0.7	N11	
369	399-00	2.2	0.8	.908	2.7	1.1	97.4	0.6	N11	
370	400-01	3.8	1.5	.908	3.4	1.4	96.4	0.7	N11	
371	401-02	5.7	2.1	.899	3.4	1.4	95.7	0.7	N11	
372	402-03	9.2	3.5	.922	3.4	1.4	94.0	1.1	N11	
373	403-04	8.6	3.3	.923	3.6	1.5	94.3	0.9	N11	
374	404-05	9.5	3.7	.932	4.9	2.0	93.4	0.9	N11	
375	405-06	10.3	4.1	.948	4.1	1.7	93.2	1.0	N11	
376	406-07	3.1	1.2	.921	1.6	0.7	97.3	0.8	N11	
377	407-08	3.2	1.2	.921	3.3	1.4	96.6	0.8	N11	
378	408-09	4.6	1.7	.907	3.0	1.2	96.0	1.0	N11	
379	409-10	7.3	2.8	.921	3.5	1.5	94.3	1.4	N11	
380	410-11	5.1	2.0	.939	3.0	1.3	95.5	1.2	N11	
381	411-12	1.8	0.7	.927	2.3	1.0	98.0	0.4	N11	
382	412-13	1.3	0.5	.951	2.8	1.2	98.1	0.2	N11	
383	413-14	1.5	0.6	.933	2.6	1.1	97.9	0.4	N11	
384	414-15	1.3	0.5	.921	3.7	1.5	97.5	0.4	N11	
385	415-16	5.2	2.1	.951	3.9	1.6	95.5	0.8	N11	
386	416-17	6.5	2.5	.932	6.7	2.8	93.8	0.9	N11	
387	417-18	3.3	1.3	.933	2.5	1.0	97.2	0.5	N11	
388	418-19	2.8	1.1	.912	3.5	1.4	96.6	0.9	N11	
389	419-20	6.0	2.3	.922	2.7	1.1	95.3	1.3	N11	
390	420-21	4.8	1.9	.918	3.2	1.3	96.1	0.7	N11	
391	421-22	3.2	1.2	.894	1.9	0.8	97.5	0.6	N11	
392	422-23	1.8	0.7	.894	1.5	0.6	98.5	0.2	N11	
393	423-24	1.5	0.5	.894	1.5	0.6	98.6	0.3	N11	
394	424-25	4.2	1.6	.894	1.7	0.7	97.2	0.5	N11	
395	425-26	3.6	1.3	.894	2.9	1.2	96.8	0.6	N11	
396	426-27	6.5	2.5	.894	4.1	1.7	94.9	0.9	N11	
397	427-28	3.9	1.4	.894	3.1	1.3	96.6	0.7	N11	
398	428-29	2.6	1.0	.894	2.5	1.1	97.4	0.6	N11	
399	429-30	2.1	0.8	.925	2.2	0.9	97.7	0.6	N11	
400	430-31	2.8	1.1	.894	2.6	1.1	97.2	0.7	N11	

Core No.	C. S. Foot	OIL		Oil Specific Gravity	WATER		Solid Specific Grav.	Gas Plus Loss Vol. %	Total L. Co's	F. Co's
		Gal/Lb.	Vol. %		Gal/Lb.	Vol. %				
401	431-32	4.2	1.6	.894	4.2	1.7	96.1	0.6	N11	
402	434-33	5.6	2.1	.894	2.8	1.2	95.9	0.9	N11	
403	433-34	3.2	1.2	.894	4.1	1.7	96.9	0.2	N11	
404	434-35	4.8	1.8	.894	3.5	1.5	96.1	0.6	N11	
405	435-36	0.9	0.4	.894	5.4	2.2	96.9	0.5	N11	
406	436-37	5.3	2.0	.894	1.2	0.5	97.0	0.5	N11	
407	437-38	1.7	0.6	.894	3.3	1.4	98.8	0.3	N11	
408	438-39	1.3	0.5	.894	4.0	1.7	97.4	0.5	N11	
409	439-40	1.1	0.4	.894	3.7	1.6	97.7	0.4	N11	
410	440-41	10.3	3.8	.894	6.2	2.6	92.5	1.1	N11	
411	441-42	7.2	2.7	.894	7.4	3.1	93.5	0.7	N11	
412	442-43	3.4	1.3	.894	7.9	3.3	94.8	0.7	N11	
413	443-44	3.0	1.1	.894	6.7	2.8	95.5	0.6	N11	
414	444-45	4.0	1.5	.894	4.2	1.8	95.8	1.0	N11	
415	445-46	8.5	3.2	.894	5.3	2.2	93.4	1.2	N11	
416	446-47	3.2	1.2	.894	3.9	1.6	96.2	1.0	N11	
417	447-48	2.6	1.0	.894	4.8	2.0	96.2	0.8	N11	
418	448-49	4.3	1.6	.894	6.6	2.8	95.1	0.5	N11	
419	449-50	4.9	1.8	.894	5.0	2.1	95.5	0.6	N11	
420	450-51	4.5	1.7	.894	5.6	2.3	95.3	0.7	N11	
421	451-52	7.9	3.0	.918	3.0	1.3	94.9	0.8	N11	
422	452-53	14.3	5.4	.912	5.5	2.3	91.4	0.9	N11	
423	453-54	12.2	4.8	.932	4.2	1.7	92.8	0.7	N11	
454-56		MISSING CORE								
424	456-57	16.6	6.4	.921	5.8	2.4	90.2	1.0	N11	
425	457-58	3.5	1.4	.951	2.3	1.0	97.1	0.6	N11	
426	458-59	1.3	0.5	.899	2.5	1.0	98.2	0.3	N11	
427	459-60	5.5	2.1	.923	1.2	0.5	96.9	0.5	N11	
428	460-61	23.4	9.3	.948	8.8	3.7	84.9	2.2	N11	
429	461-62	23.4	9.0	.921	6.2	2.6	86.6	1.8	N11	
430	462-63	16.4	6.4	.932	5.4	2.3	89.9	1.5	N11	
431	463-64	28.2	10.9	.922	5.7	2.4	84.2	2.6	N11	
432	464-65	16.6	6.5	.932	7.2	3.0	88.9	1.7	N11	
433	465-66	15.4	6.0	.939	4.2	1.8	90.8	1.4	N11	
434	466-67	8.7	3.4	.921	5.2	2.2	93.6	0.9	N11	
435	467-68	11.4	4.3	.907	2.8	1.2	93.9	0.6	N11	

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	Depth Feet	C.I.		CH Sp. Gs Density	WATER		Sp. Gs Density	W. %	Tard. by to Core	Remarks
		E. Wt.	Vol. %		G-W/Feet	Vol. %				
436	468-69	11.5	4.4	.922	6.8	2.8	91.5	1.2	N11	
437	469-70	5.7	2.2	.933	2.1	0.9	96.3	0.6	N11	
438	470-71	15.5	6.2	.951	4.1	1.7	90.6	1.5	N11	
439	471-72	18.4	7.1	.924	4.3	1.8	89.5	1.6	N11	
440	472-73	15.0	5.8	.927	4.4	1.8	90.8	1.5	N11	
441	473-74	9.8	3.9	.941	4.9	2.1	92.9	1.1	N11	
442	474-75	5.4	2.1	.950	4.2	1.8	95.3	0.8	N11	
443	475-76	4.4	1.8	.956	2.7	1.1	96.6	0.5	N11	
444	476-77	6.0	2.4	.951	2.0	0.8	96.2	0.6	N11	
445	477-78	7.0	2.7	.942	2.8	1.2	95.3	0.8	N11	
446	478-79	8.4	3.3	.944	1.6	0.7	95.5	0.5	N11	
447	479-80	10.8	4.2	.946	3.2	1.3	93.4	1.0	N11	
448	480-81	10.6	4.1	.936	6.8	2.8	91.9	1.2	N11	
449	481-82	8.7	3.4	.934	8.0	3.4	92.4	0.9	N11	
450	482-83	17.4	6.8	.941	6.7	2.8	89.2	1.2	N11	
451	483-84	26.0	10.0	.921	7.0	2.9	85.0	2.1	N11	
452	484-85	26.1	10.1	.922	6.1	2.6	85.5	1.9	N11	
453	485-86	11.2	4.3	.933	4.6	1.9	93.3	0.5	N11	
454	486-87	8.8	3.4	.931	2.9	1.2	94.7	0.7	N11	
455	487-88	13.6	5.3	.925	6.5	2.7	90.9	1.1	N11	
456	488-89	15.8	6.2	.937	6.2	2.6	90.0	1.2	N11	
457	489-90	17.5	6.8	.928	5.9	2.5	89.3	1.5	N11	
458	490-91	10.9	4.2	.934	3.9	1.6	93.1	1.0	N11	

491-92.2 MISSING CORE